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Working Paper

Calculating costs of pig production with the InterPIG network

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Calculating Costs of Pig Production with the InterPIG Network

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Arbeitsberichte aus der vTI-Agrarökonomie

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Der vorliegende Arbeitsbericht kann unter
http://www.vti.bund.de/de/institute/bw/publikationen/bereich/ab_04_2008_de.pdf kostenfrei heruntergeladen werden.

Zusammenfassung

Dieser Arbeitsbericht stellt Ziele, Methode und verwendete Daten der internationalen Arbeitsgruppe InterPIG[1] dar. Die Mitglieder der Arbeitsgruppe agieren im Rahmen eines informellen Netzwerkes mit einem gemeinsamen Datenpool. Dieser bietet die empirische Grundlage zur jährlichen Kalkulation der Kosten der Schweinefleischerzeugung nach einheitlicher Methode sowie zur Analyse der Gründe von Kostenvorteilen und Kostennachteilen. Der Arbeitsbericht beschreibt den Beitrag der Mitglieder zum Netzwerk, erläutert die Methode zur Kalkulation der Produktionskosten und gibt Ergebnisse des Jahres 2006 wieder. Außerdem wird anhand aktualisierter Kalkulationen der Futterkosten 2007 dargestellt, wie InterPIG bei außergewöhnlichen Preisänderungen reagieren kann.

JEL: Q12, Q16, Q17, Q18

Schlüsselwörter: Ferkelerzeugung, Schweinemast, Kosten-Leistungs-Verhältnis, internationaler Kostenvergleich

Summary

This working paper presents objectives, methods and the empirical basis of the international working group InterPIG. The members of the group act within an informal network as a base for a mutual exchange of data needed for a unique way to annually calculate the costs of pig production and to analyse their determinants. The working paper informs on the contributions of the members to the network, explains the method for calculating the production costs and presents results of 2006. Further, it shows how InterPIG can react to rapid price changes like the increase of the feed prices during 2007.

JEL: Q12, Q16, Q17, Q18

Keywords: Piglet production, pig fattening, relation of costs and returns, international comparison of costs

[1] International Pig Information Group.

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1 Introduction

Producers of pigs in countries participating in the international division of labour follow the increase of global trade also with pork. They have to check their comparative advantages and disadvantages and to look for possibilities to secure or improve their competitive position. Therefore, scientists in pork exporting countries with well organised pig production like Denmark (SJI, 1990), the Netherlands (VAN DRIEL, 1996) and France (SALAÜN und TEFFÈNE, 1996) developed first methods to compare costs of pig production and their determinants at the farm level. These comparisons applied already in the preceding century shall give producers and other persons interested in the competitive position of national pig production some hints on weak points and on room for improvement in the fields of physical performance and costs of inputs.

Now, the analysis of pig production costs and their determinants is no longer isolated in single countries. A study by the Meat and Livestock Commission in the United Kingdom (KNOWLES, 2002) initiated the idea of coordinating national activities in this field. Knowles´ contacts to colleagues from Denmark, France, Ireland and the Netherlands interested in comparable values on costs of pig production reinforced intentions to cooperate within an informal network. In 2003, agricultural economists from the countries mentioned above came together with colleagues from Germany and Italy. They agreed to cooperate within such a network using a common data base and applying a method of cost calculation unique for all countries. In the following years, the network was expanded first by Austria, Sweden and Belgium, and in 2007 even by Canada, the USA and Brazil. The representatives of the participating countries come from scientific institutes and extension services of farmers´ organisations.[2] The informal character of the network means that it is open to members of all important pig producing countries. But, the access presupposes that each member has to contribute all data from his country required by the network.

Since 2006, the network has become known under the acronym InterPIG. However, there is still a need for more information on the network. Therefore, this report will present its objectives, methods and the empirical basis for calculating costs of pig production. Furthermore, current results will be discussed.

[2] A list of the institutes and organisations of the participating countries is presented in the appendix.

2 Objectives and organisation of the network

The main objectives of InterPIG are

– to annually compute comparable values of pig production costs per kg carcase as an indicator of competitiveness in primary production

– to compare values of physical and financial performance of the participating countries as crucial determinants of the level of production costs

– to have available a common pool of data needed for calculating costs of pig production and analysing their determinants.

The data of the pool are actualised every year by the members of the participating countries. The representative of each country has to deliver the data necessary for the pool to realise the objectives of the network.[3] The data used for the InterPIG calculations represent an average of farms documenting their costs and returns of pig production. Thus, the data do not take into account the large variance of the pig farms.

The values of the pool are available for each participant, if the data requested from his country have been delivered. The data to be delivered annually are determined by the variables of the InterPIG model and used to calculate costs of pig production and to analyse its physical and financial performance. A list of the variables is presented in Table A1 in the appendix, further a glossary of InterPIG definitions. The following description of the model and its empirical basis will also refer to this list and to the number indicating the sequence of the variables.

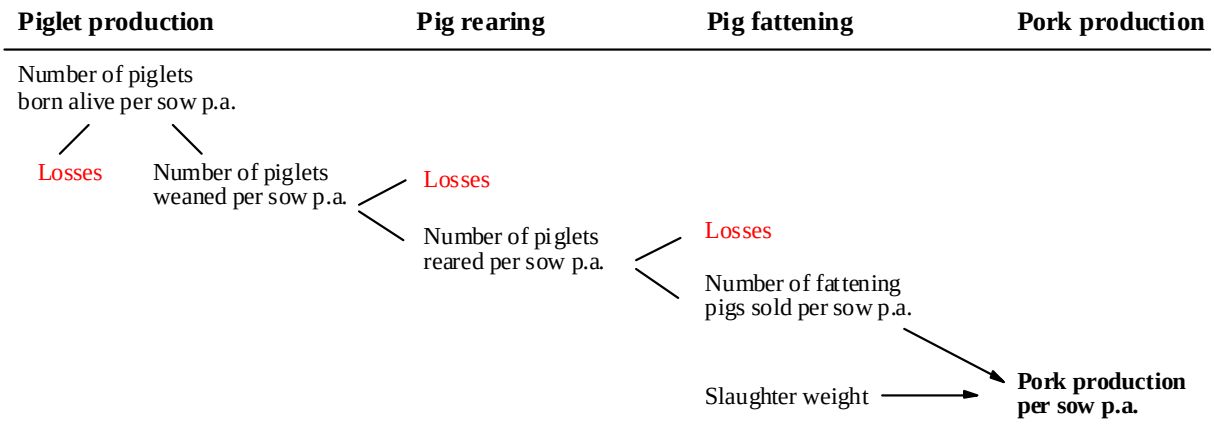
[3] The collection of the data and the calculation of the production costs are managed by Tony Fowler, Agriculture and Horticulture Development Board Meat Services, formerly the Meat and Livestock Commission.

3 Method of calculation and its empirical basis

The method of calculating costs of production is based on a concept developed by the National Committee for Pig Production in Denmark (UDESEN, 2003).[4] Initially this concept served for calculating representative values of production costs for piglets and pigs for fattening. The representative values are a basis for determining reference prices for piglets resulting in a profitability of capital used by piglet production, which is equal to the profitability of capital used for pig fattening in Denmark. Subsequently the concept of the National Committee has also been utilised for international comparisons of pig production costs (UDESEN and RASMUSSEN, 2001; RASMUSSEN, 2002). So, the InterPIG model can benefit from the experiences in Denmark.

The calculation of pig production costs by the InterPIG model concerns the whole pig production process from the insemination of the sow to the delivery of the pig for slaughter (RASMUSSEN, 2004; UDESEN 2003).[5] It starts by computing the output of piglet production, piglet rearing, pig fattening and finally the production of pork per sow annually (s. Figure 1). The model presents pig production like a closed system. However, it also takes farms specialised on piglet production or pig fattening and the costs for piglet transport (88) into account.

Figure 1: Calculation of the output of piglet production, pig rearing and pit fattening in the InterPIG model



Source: Own presentation.

[4] After the reorganisation of the Danish meat sector 2006 the committee is presented as an expert organisation and with the name Danish Pig Production

[5] The following presentation of the variables refers to figures in brackets, these figures are identical with the number of the corresponding row in Table A1 in the appendix).

The number of piglets weaned (6) results from the multiplication of the number of litters per sow per year (8) with the number of piglets born alive per litter (9) and subtracting the losses during the periods of weaning (11). In the following steps the model computes the number of fattening pigs sold per sow and year (7) and the corresponding carcase meat production (39). The numbers of fattening pigs is determined by the piglets annually weaned per sow and mortality during weaning (12) and finishing (13). The carcase weight is measured at the warm carcase (33) in Austria, Belgium, Brazil, Denmark, Germany, Great Britain, the Netherlands and Spain. In the other countries (Canada, France, Ireland, Italy, Sweden and the USA it is measured at the cold carcase (35).

However, the basic version of the InterPIG model calculates production costs per kg slaughter weight cold. Therefore, the model applies a coefficient to adjust hot weight to cold weight (34)

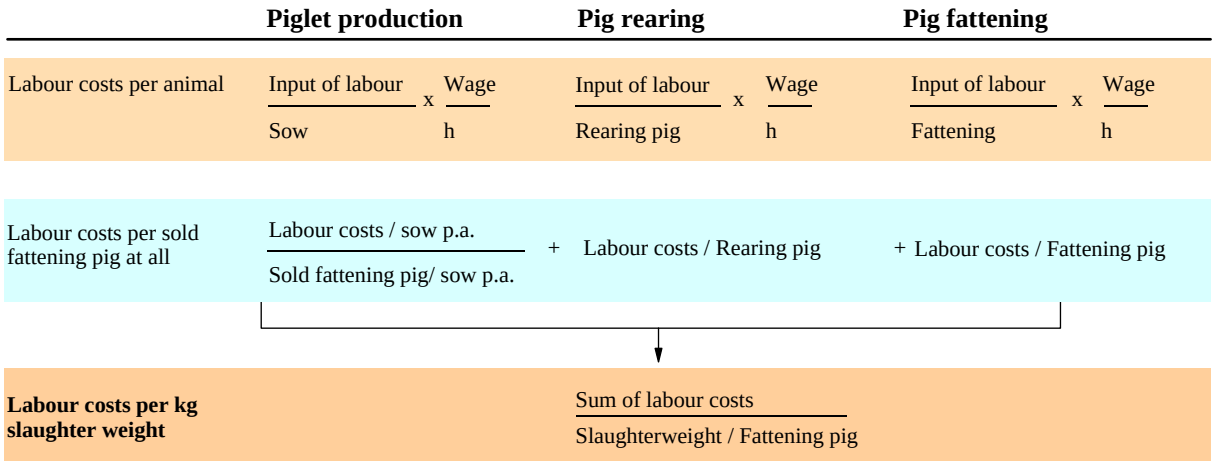
The calculation of the production costs determines the costs per sow and year, per reared pig and per fattened pig for each important input. Figures 2 and 3 exemplarily illustrate the calculation of the feed costs and the labour costs. The model registers as well the quantity of feed per animal (44, 46, 48), of labour per animal (50, 51) as well as the feed prices (54, 55, 56) and the wage rate (57). In the following step, the model divides the costs per sow by the number of fattening pigs sold per year, and adds this result to the costs per rearing pig and the costs per fattening pig. Dividing this sum by the slaughter weight of the fattener finally results in the costs per kg slaughter weight. In the cases of veterinary services (58, 59), energy (61, 62), water (92) and insemination (66) the model registers only the monetary input.

Figure 2: Calculation of feed costs in the InterPIG-Model

	Piglet production	**Pig rearing**	**Pig fattening**
Feed costs per animal	$\frac{\text{Input of feed}}{\text{Sow}} \times \frac{\text{Price}_s}{\text{dt}}$	$\frac{\text{Input of feed}}{\text{Rearing pig}} \times \frac{\text{Price}_f}{\text{dt}}$	$\frac{\text{Input of feed}}{\text{Fattening pig}} \times \frac{\text{Price}_m}{\text{dt}}$
Feed costs per sold fattening pig at all	$\frac{\text{Feed costs / Sow p.a.}}{\text{Sold fattening pigs / Sow p.a.}}$	+ Feed costs / Rearing pig	+ Feed costs / Fattening pig
Feed costs per kg slaughter weight	$\frac{\text{Sum of the feed costs}}{\text{Slaughterweight / Fattening pig}}$		

Source: Own Presentation.

Figure 3: Calculation of labour costs in the InterPIG-model



Source: Own Presentation.

The net breeding costs per sow K_b (65) are calculated by multiplying the difference between the purchase price of the gilt and the price of culled sow p_j - e_a with the sow replacement rate r:

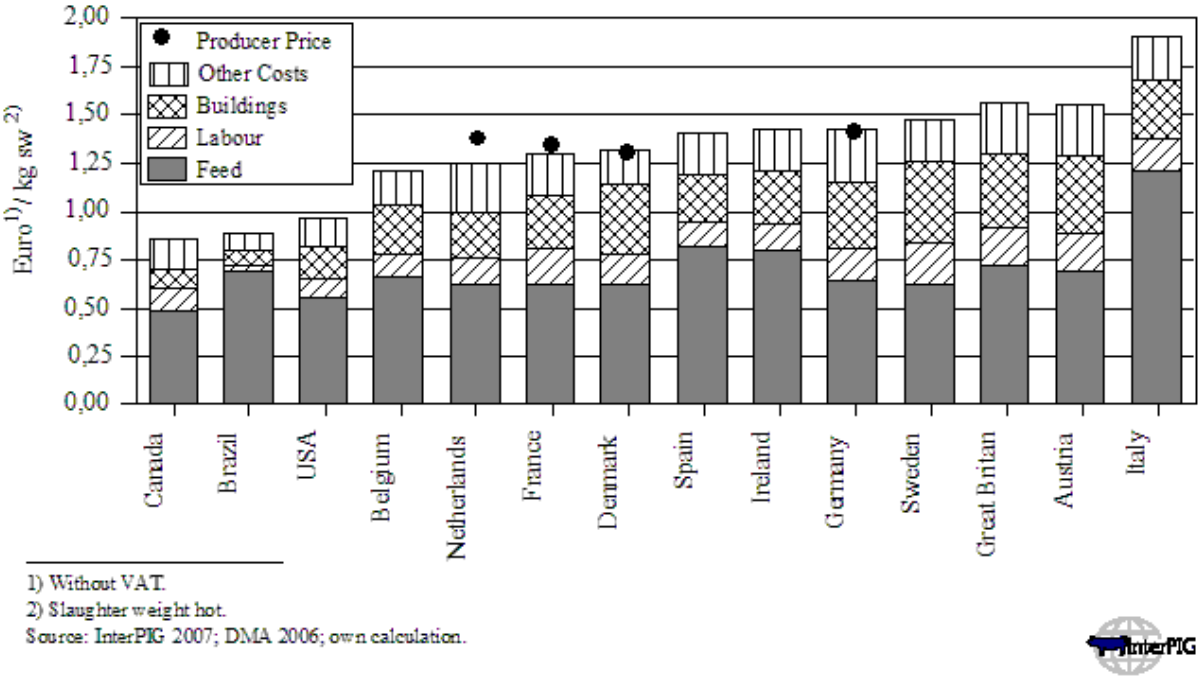
$$K_b = r\ (p_j - e_a)$$

The calculation of the building cost is based on the capital required for establishing a new place for a sow (73), a rearing pig (74) and finishing pig (75). The annual costs are computed on the basis of a depreciation period of 20 years for buildings and 10 years for equipment. The interest rate refers to the rate of mortgage (69). Further, the model takes into account the utilisation of the capital by registering the length of the suckling period (16), the daily gain in weight and the final weight of the rearing piglets (19), (17) and the fatting pigs (31), (25).

4 Results 2006

The production costs per kg slaughter weight are determined in general by the productivity and input prices. The results of productions costs for pork at the farm level in 2006 calculated by the InterPIG show the lowest level in Canada with 0.86 € and in Brazil with 0.89 € per kg slaughter weight. Even in the USA the cost level is below 1 €, it amounts to 0.98 €. In Europe the production costs vary from 1.22 € in Belgium to 1.56 € in Great Britain and 1.91 € in Italy (s. Figure 4). But, the results in Italy deviate, because they refer to special heavy pigs produced for hams and sausages. Therefore, the results of Italy will not be further discussed in the following comparison.

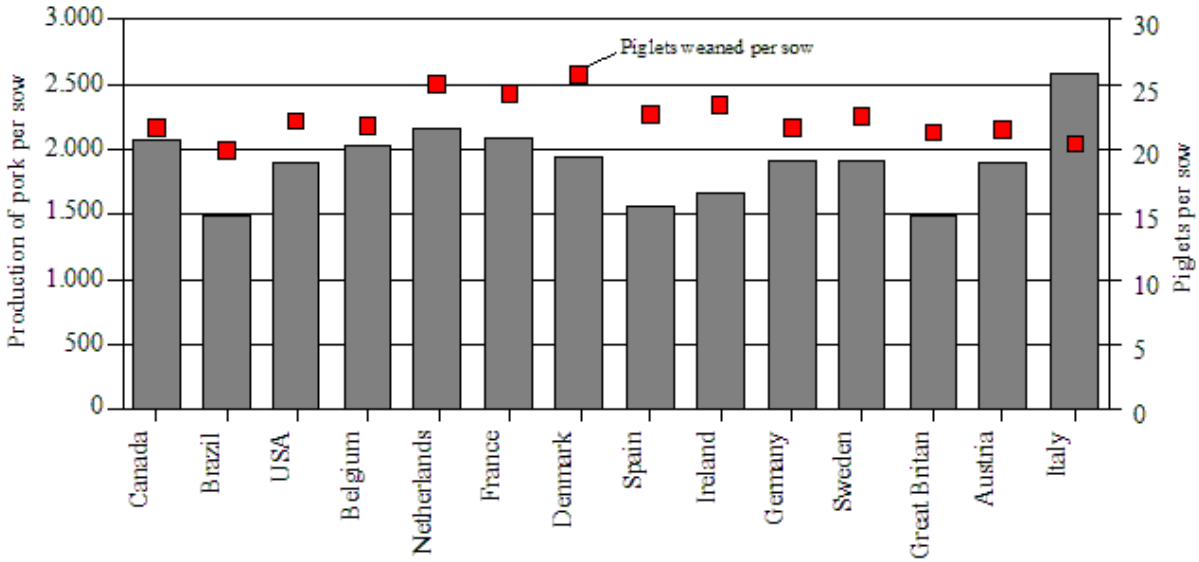
Figure 4: International comparison of costs and revenues in pig production 2006



The advantages of low production costs in Canada and the USA result mainly from cheap feed as from low wages and low costs for building. In Brazil the wages and the costs of the buildings are even lower, but the feed prices are higher. The European pig farms intend to compensate their high input prices by a high level of productivity. Considering the wide variance of production costs in Europe three groups of countries with a low, a medium or a high cost level may be classified here. Belgium, the Netherlands, France and the Denmark may be regarded as countries with a low level. However, within this group the costs in Denmark are 10 Cents higher than in Belgium. Spain, Ireland, Germany and Sweden are classified into the medium group with a cost level from 1.40 € in Spain to 1.47 € in Sweden. The high level group is formed by Austria, Great Britain. Here the cost level of Austria is, with 1.55, only one Cent below the value of Great Britain, but 45 Cents less than in Italy.

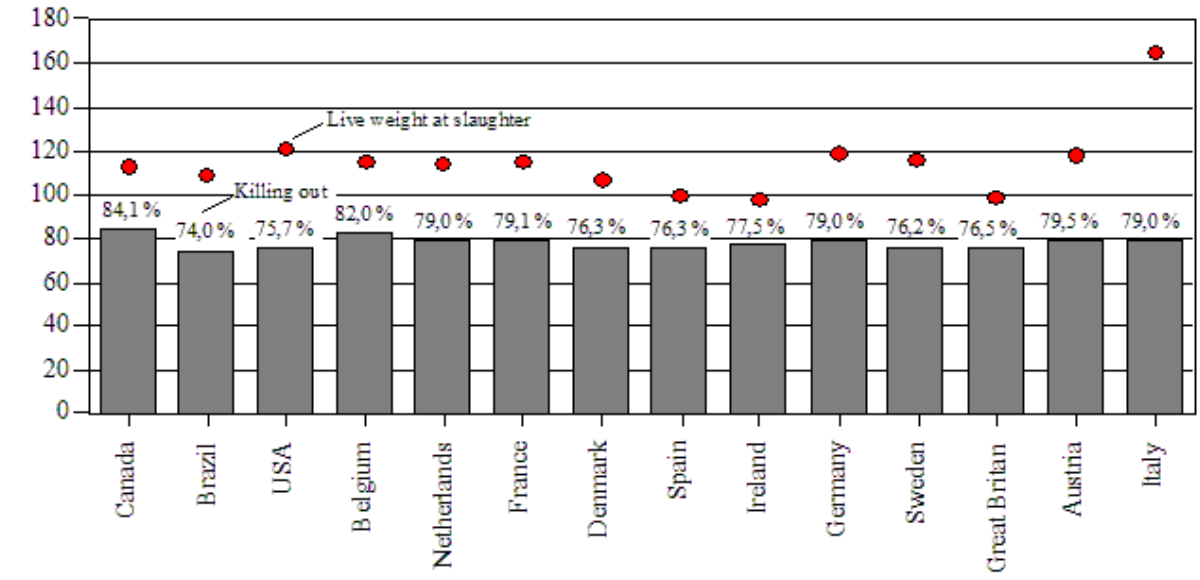
One overall measure of the productivity in piglet production and pig fattening is the meat production per sow and year, depending on the number of piglets weaned annually per sow and their growth during rearing and fattening (s. Figure 5). However, concerning this criterion the producers in Canada can even compete with the leading countries in Europe. Canada's pig farmers benefit from a high killing out percentage (s. Figure 6).

Figure 5: Number of piglets and production of pork annually 2006



Source: InterPIG 2007; own calculation.

Figure 6: Live weight at slaughter and killing out percentage 2006



Source: InterPIG 2007; own calculation.

In Europe, the Netherlands and France achieve the highest level of meat production per sow and year. Though the production costs per kg slaughter weight are even lower in Belgium which presumably also results from the high killing out percentage of 82 %, which is higher than in the other European countries. Further, the labour costs per kg are lower due

to a relatively low input of labour per sow and per fattened pig. The production costs in the Netherlands are higher than in Belgium; because the Dutch farmers pay higher wages and they have larger charges to get rid of surplus manure. The French pig farmers have disadvantages by the labour costs due to a relatively high input of labour per sow and per fattener.

The Danish producers achieve a high number of piglets weaned and even of fatteners sold per sow annually. But their production of meat per sow is less then in France and the Netherlands, because the fatteners in Denmark have a lower slaughter weight. This means that the production costs of pork are incurred more by costs of producing piglets. The pig farms in Ireland have also higher levels of piglet costs due to a lower slaughter weight of the fatteners. Further, like the Spanish farms, they have disadvantages due to higher feed prices resulting in higher feed cost per kg slaughter weight.

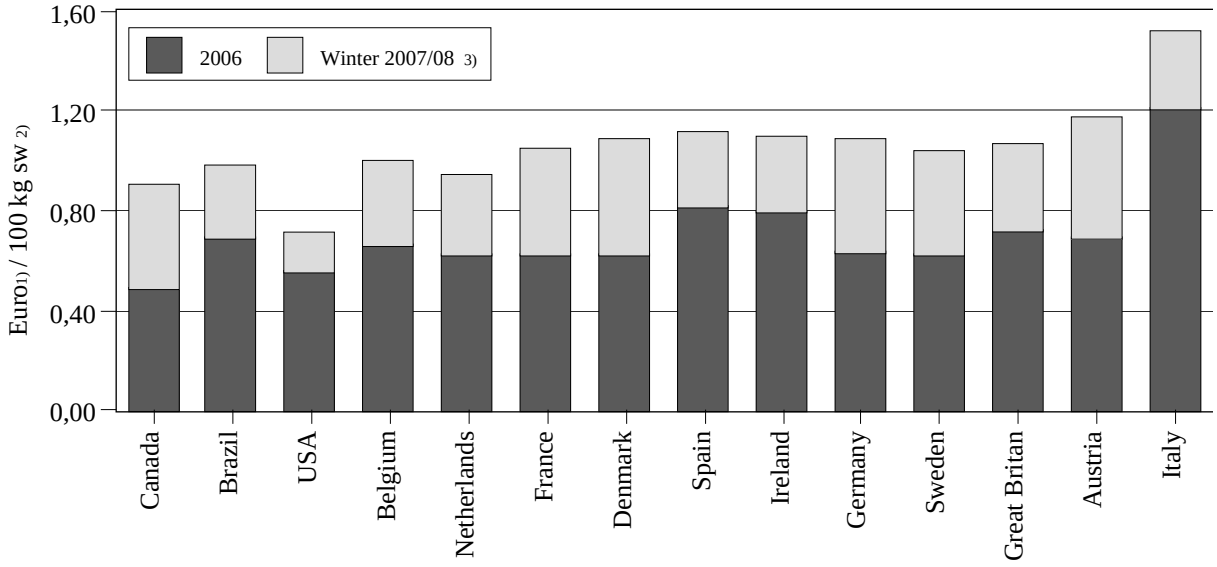
The German pig producers have disadvantages due to the high level of labour and building costs. These result from the small number of piglets weaned per sow, which means that the fixed costs per piglet are high in Germany. However, Sweden, Austria and Great Britain have more labour costs and building costs per kg slaughter weight. They result from strong regulations for animal protection in Sweden and Great Britain. The British producers have further disadvantages by the low slaughter weight and by high rates of mortality. The pig farms in Austria have higher fixed costs due to small herd size.

5 Change of feed prices after 2006 and impacts of feed conversion

Since Autumn 2006, the prices of feed increased pronouncedly. InterPIG has taken into account these changes by collecting current feed prices from the members of the network and calculating feed costs per kg slaughter weight on the basis of the new prices and on the same conversion ratios as in 2006, because more current feed conversion ratios are not yet available.[6] Thus, Figure 7 illustrates the increase of the feed costs due to the rising feed prices from 2006 to Winter 2007/08.

The increase of the feed costs per kg slaughter weight has been highest in Austria with 48 Cents followed by Denmark with 46 Cents and Germany with 45 Cents. Even in Canada the feed costs rose by 42 Cents, while the increase in the USA has been reduced by devaluation of the US-Dollar and amounts only to 15 Cents. Thus, the Canadian pig producers have lost costs advantages to the Europeans, while the US-American gained. The difference of the feed costs in Canada and in the Netherlands decreased from 14 Cents in 2006 to 4 Cents in Winter 2008. Denmark and Germany lost their relative advantages in the field of feed costs in Europe, while the disadvantages of the British, Irish and Spanish pig producers decreased.

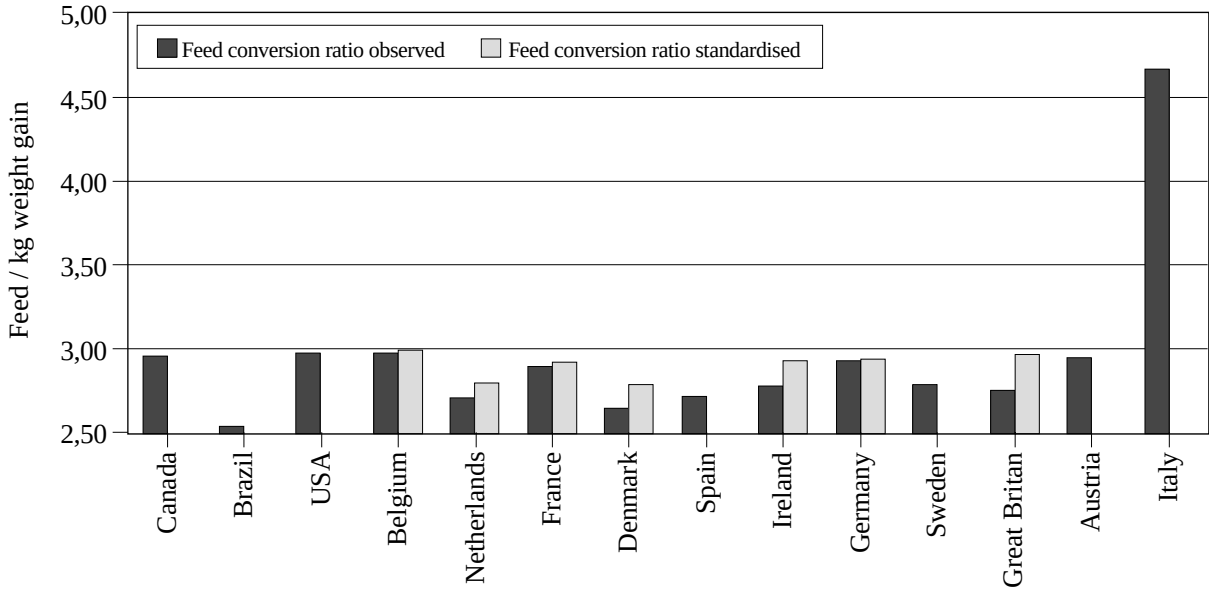
Figure 7: Feedcosts in 2006 and Winter 2007/08



1) Without VAT.
2) Slaughterweight hot.
3) January 2008 in the case of France and the USA, February in the case of the other countries.
Source: InterPIG 2007; DMA 2006; own calculation.

[6] The this task was predominantly fulfilled by Tony Fowler, Agriculture and Horticulture Development Board (AHDB).

Figure 8: Feed conversion ratio observed and standardised



Source: InterPIG 2007; DMA 2006; own calculation.

Analysing the determinants of feed cost InterPIG compares also the rate of feed conversion (s. Figure 8). But, the observed values of feed conversion are less comparable, because the period of the pig fattening process and the final weight of the slaughter pigs vary from country to country. In Denmark, Great Britain and Ireland, e.g. the ratio is low due to a shorter period of fattening and a lower final weight. InterPIG tries to solve the problem to get comparable values by computing standardised results with reference to a unique process and a final weight of 120 kg. These standardised results confirm that the Danish and Dutch pig producers have the most efficient feed conversion, while the conversion in Ireland is nearly the same as in Germany; in Great Britain it is worse.

6 Conclusion

The activities of InterPIG give some insights into comparative advantages and disadvantages of countries with important pig production involved in the international competition. Actualising the empirical basis to calculate pig production costs each year InterPIG shows also how the competitive position of the member countries developed since 2002. However, the network is still open for new members, especially in Eastern Europe.

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Appendix

Table A1: Template of the data (Part 1)

Line No.	Variable	
1	**Template of data needed for calulating costs of pig meat production**	
2	**Costs in Euros**	
3	**Figures in *blue* are derived by formula**	
4	**See Glossary for definitions**	
5	**Production efficiency**	**2006**
6	***Pigs Weaned Per Sow Per Year***	***21.80***
7	***Pigs Sold Per Sow Per year***	***20.32***
8	Litters/sow/year	2.28
9	Pigs born alive per litter	11.2
10	Sow mortality	6.00%
11	Pre Weaning Mortality (%)	14.45%
12	Rearing Mortality (%)	3.00%
13	Finishing Mortality (%)	3.90%
14	Sow replacement rate	43.48%
15	Transfer weight from breeding to rearing unit (kg)	7.5
16	Age of weaning (days)	27
17	Transfer weight from rearing to finishing unit (kg)	29.8
18		
19	Rearing Daily Liveweight Gain (g/day)	437
20	Rearing Feed Conversion Ratio	1.8
21	***Ave number of days in rearing unit***	***51***
22	Empty rearing unit days per cycle	**5.0**
23	***Pigs per pig place per year (rearing)***	***6.51***
24		
25	Finishing Daily Liveweight Gain (g/day)	723
26	Finishing Feed Conversion Ratio	2.935
27	***Ave number of days in finishing unit***	***124***
28	Empty finishing unit days per cycle	**7.0**
29	Pigs per pig place per year (finishing)	***2.78***
30		
31	Average live weight at slaughter	119.5
32	Carcase weighed hot or cold?	*H*
33	Average carcase weight (hot)	94.4
34	Adjustment from hot to cold	*-2.0%*
35	Average carcase weight (cold)	*92.5*
36		
37	***Killing out percentage (cold weight)***	***77.4%***
38	***Killing out percentage (hot weight)***	***79.0%***
39	Carcase meat production per sow per year (kg)	***1880***
40	Average lean meat percentage	56.5%
41	***Lean meat production per sow per year (kg)***	***1061***
42		
43	**Components in the production**	**2006**
44	Sow feed (kg) per sow per year	1230
45	Sow ration Ave Energy Content (MJ ME/kg)	*12.8*
46	Weaner/Rearer feed (kg) per pig	39.6
47	Weaner/Rearer ration Ave Energy Content (MJ ME/kg)	*13.4*
48	Finishing pigs feed consumption (kg) per pig	263.3
49	Finisher ration Ave Energy Content (MJ ME/kg)	13.2
50	Time usage per sow per year in hours	15
51	Time usage per finished pig per year in hours	0.35
52		

Table A1: Template of the data (Part 2)

Line No.	Variable	
53	**Price of components (€)**	**2006**
54	Average price of sow feed per tonne	169.44
55	Average price of weaner/rearer feed per tonne	0.00
56	Average price of finishing pigs feed per tonne	152.88
57	Cost of labour per hour	15.00
58	Veterinarian and medicine per sow per year (breeding)	86.67
59	Veterinarian and medicine per pig (rearing/finishing)	1.31
60	Electricity cost per kilowatt hour	0.13
61	Energy cost per sow per year (breeding)	69.25
62	Energy Cost per finished pig (rearing/finishing)	2.77
63	Gilt/sow ave purchase price	326.21
64	Cull sow ave sale price	195.21
65	***Net breeding cost per sow***	***56.96***
66	AI cost per sow/year	15.75
67		
68	Ave interest rate - working capital	5.10%
69	Ave interest rate -mortgage	4.90%
70	Payback period on equipment in years	10
71	Payback period on buildings in years	20
72		
73	Building cost per sow	
74	Building cost per rearing pig place	2,198.77
75	Building cost per finishing pig place	237.79
76	Building & equipment maintenance per sow	387.07
77	Building & equipment maintenance per rearing pig	29.23
78	Building & equipment maintenance per finisher pig	0.73
79		1.71
80	Office and Professional Fees per finished pig	
81	Research levy per pig produced	
82	Marketing levy per pig produced	0.51
83	Animal health insurance per pig produced	0.30
84	Ave Meat inspection/carcase classification charges per pig	0.31
85		
86	Transport: rearing pig to fattening farm (per pig transported)	1.79
87	Percentage of rearing pigs in open systems	80%
88	***Transport: rearing pig to fattening farm (per finished pig)***	***1.49***
89	Transport: finishng pig to abattoir (per finished pig)	2.50
90		
91	Straw & Bedding per finisher	
92	Water cost per finished pig	
93	Miscellaneous costs per sow (breeding)	30.00
94	Miscellaneous costs per finished pig (rearing/finishing)	3.00
95		
96	**Other relevant cost factors ($)**	**2006**
97	Net Manure disposal costs per sow (breeding)	13.70
98	Net Manure disposal costs per finished pig (rearing/finishing)	2.20
99	Disposal of dead animal cost (Fallen stock) per finished pig	0.07
101	Source: InterPIG 2007.	

Glossary of InterPIG Definitions

Numbers relate to the rows in the spreadsheet

Production Efficiency

Average present sow = average daily number of sows in the year. The definition of a sow is from first insemination to slaughter.

6. Pigs weaned/sow/year. Based on average present sow. Formula: pigs born alive per litter * (100 - pre weaning mortality)* litters/sow/year
7. Pigs sold/sow/year. Based on average present sow. Formula: pigs weaned/sow/year * (100 - rearing mortality) * (100 - finishing mortality)
8. Litters/sow/year. The actual number of litters in a 365-day period. This will therefore include “empty” or waste-feeding days. Based on productive sow.
9. Pigs born alive per litter. Excludes pigs born dead.
10. Sow mortality. Pigs that die on the farm during the year, and where no payment is received. As a % of average present sows.
11. Pre-weaning mortality. Deaths as a % of the number of pigs entering the system, not the number leaving it.
12. Rearing Mortality. As above.
13. Finishing Mortality. As above. Relates to pigs on farms, and therefore excludes post-farm gate mortality, eg mortality in transport to abattoir.
14. Sow replacement rate. Sow deaths plus sow culling during the year.
15. Transfer weight from breeding to rearing unit (kg)
16. Age of weaning (days)
17. Transfer weight from rearing to finishing unit (kg)
19. Rearing Daily Liveweight Gain (g/day). Relates to pigs entering the system at the weight shown in row 15 and transferring to the finishing system at the weight shown in row 17.
20. Rearing Feed Conversion Ratio. As above
21. Ave number of days in rearing unit. Refers to pigs exiting the system. Formula: (transfer weight from rearing to finishing unit – transfer weight from breeding to rearing unit) ÷ rearing daily live weight gain) * 1000
22. Empty rearing unit days per cycle. The number of days between one batch leaving and the next batch coming in.
23. Pigs per pig place per year (rearing). Formula: 365 ÷ (average number of days in rearing unit + empty rearing unit days per cycle)
25. Finishing Daily Liveweight Gain (g/day). Relates to pigs raised from the transfer weight shown in row 17 to the slaughter weight shown in row 25.

26. Finishing Feed Conversion Ratio. As above.
27. Ave number of days in finishing unit. Formula: (average liveweight at slaughter – transfer weight from rearing to finishing unit) ÷ finishing daily liveweight gain * 1000
28. Empty finishing unit days per cycle. The number of days between one batch leaving and the next batch coming in.
29. Pigs per pig place per year (finishing). Formula: 365 ÷ (average number of days in finishing unit + empty finishing unit days per cycle)
31. Average live weight at slaughter
32. Carcase weighed hot or cold? H or C
33. Average carcase weight (Hot)
34. Adjustment from hot to cold
35. Average carcase weight (Cold)
37. Killing out percentage (cold weight). Formula: adjusted carcase weight (cold) ÷ average liveweight at slaughter)
38. Killing out percentage (hot weight). Formula: adjusted carcase weight (hot) ÷ average liveweight at slaughter)
39. Carcase meat production per sow per year (kg). Based on cold weight. Formula: pigs sold/sow/year * adjusted carcase weight (cold)
40. Average lean meat percentage. Based on cold weight.
41. Lean meat production per sow per year (kg). Based on cold weight. Formula: carcase meat production/sow/year * average lean meat percentage

Components in the production

44. Sow feed (kg) per sow per year. Including gilts and boars.
45. Sow ration Ave Energy Content (MJ ME/kg)
46. Weaner/Rearer feed (kg) per pig. Formula: (transfer weight from rearing to finishing unit – transfer weight from breeding to rearing unit) * rearing feed conversion ratio
47. Weaner/Rearer ration Ave Energy Content (MJ ME/kg)
48. Finishing pigs feed consumption (kg) per pig. Formula: (average liveweight at slaughter – transfer weight from rearing to finishing unit) * finishing feed conversion ratio
49. Finisher ration Ave Energy Content (MJ ME/kg)
50. Time usage per sow per year in hours. Includes hired labour plus farmer/family plus administration costs.
51. Time usage per finished pig per year in hours. As above.

Price of Components

54. Average price of sow feed per tonne. Commercial purchase price.
55. Average price of weaner/rearer feed per tonne. Commercial purchase price.
56. Average price of finishing pigs feed per tonne. Commercial purchase price.
57. Cost of labour per hour. Total costs to employer.
58. Veterinarian and medicine per sow per year (breeding). Excluding medicine in feed.
59. Veterinarian and medicine per pig (rearing/finishing). As above.
60. Electricity cost per kilowatt hour. Net cost after subsidies.
61. Energy cost per sow per year (breeding). Net costs after subsidies.
62. Energy cost per finished pig (rearing/finishing). Net costs after subsidies.
63. Gilt/sow average purchase price
64. Cull sow average sale price
65. Net breeding cost per sow. Excludes AI costs. Formula: (gilt/sow average purchase price – cull sow average sale price) * sow replacement rate
66. AI cost per sow/year. Commercial costs.
68. Ave interest rate - working capital. Short-term debts to finance the production of the pig. Interest rates on working capital are those applicable to short term borrowing for less than 1 year, other than an overdraft, which can be called in at any time.
69. Ave interest rate –mortgage
70. Payback period on equipment in years. Standardised at 10 years.
71. Payback period on buildings in years. Standardised at 20 years.
73. Building cost per sow. Net costs after subsidies.
74. Building cost per rearing pig place. Net costs after subsidies.
75. Building cost per finishing pig place. Net costs after subsidies.
76. Building & equipment maintenance per sow
77. Building & equipment maintenance per rearing pig
78. Building & equipment maintenance per finisher pig
80. Office and Professional Fees per finished pig
81. Research levy per pig produced
82. Marketing levy per pig produced
83. Animal health insurance per pig produced
84. Ave Meat inspection/carcase classification charges per pig
86. Transport: rearing pig to fattening farm (per pig transported). Relates to rearing pigs in “open” systems, where physical transport from the rearing holding to the fattening holding is necessary.

87. Percentage of rearing pigs in open systems. Where physical transport from the rearing holding to the fattening holding is necessary

88. Transport: rearing pig to fattening farm (per finished pig). Formula: (transport: rearing pig to fattening farm per pig transported * percentage of rearing pigs in open systems)

89. Transport; finishing pig to abattoir (per finished pig). Per pig alive when leaving the farm. Not included in production costs.

91. Straw & Bedding per finisher

92. Water cost per finished pig

93. Miscellaneous costs per sow (breeding)

94. Miscellaneous costs per finished pig (rearing/finishing)

Other relevant cost factors

97. Net Manure disposal costs per sow (breeding). Net disposal costs (costs minus sales) of manure transport and spreading.
98. Net Manure disposal costs per finished pig (rearing/finishing. As above.
99. Disposal of dead animal cost (Fallen stock) per finished pig

Additional assumption made in finance charge estimates

- Building and equipment costs are split 62:38

Tony Fowler
Meat and Livestock Commission

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InterPIG participants

InterPIG is a joint project involving the following organisations and countries:

- Austria – Verband landwirtschaftlicher Veredelungsproduzenten VLV
- Belgium – Boerenbond Belgie and Vlaamse Overheid, Departement Landbouw en Visserij
- Brazil – Empresa Brasileira de Pesquisa Agropecuária (Embrapa)
- Canada – Manitoba Agriculture, Food and Rural Initiatives
- Denmark – Danske Slagterier
- France – Ifip -Institut du Porc
- Germany – Institut für Betriebswirtschaft (vTI), and Interessengemeinschaft der Schweinehalter (ISN)
- Great Britain – British Pig Executive
- Ireland – Teagasc Rural Economy Research, Dublin
- Italy – Centro Ricerche Produzioni Animali
- Netherlands – LEI (University of Wageningen), and PVE
- Spain – SIP Consultors
- Sweden – LRF Konsult
- United States – AgStar Financial Services

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